



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Shigeo IIZUKA et al.

Group Art Unit: 3754

Application No.: 10/564,943

Examiner: D. SHEARER

Filed: May 9, 2006

Docket No.: 126691

For: FOAMER DISPENSER

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants hereby request review of the March 25, 2010 Final Rejection for the above-identified application. A Notice of Appeal and fee in the amount of \$540 are filed concurrently herewith. The Commissioner is also authorized to charge any additional fee or credit any overpayment associated with this communication to Deposit Account No. 15-0461.

I. Status of Pending Claims

Claims 1-9 are pending in this application. All claims stand finally rejected. No amendments are being filed with this request.

II. Grounds of Rejection Presented For Review

The following ground of rejection is presented for review: the March 25, 2010 Final Rejection rejects claims 1-9 under 35 U.S.C. §103(a) over Iizuka et al. (U.S. Patent No. 5,813,576) in view of Maas et al. (U.S. Patent No. 4,925,106). Claim 1 is the only rejected independent claim.

Applicants respectfully submit that the legal and factual bases of the §103 rejection contain clear deficiencies.

**III. Legal and Factual Deficiencies By Omission of
Essential Components Needed for §103(a) *Prima Facie* Rejection**

Iizuka and Maas, alone or in any permissible combination, fail to teach and would not have rendered obvious "wherein the meshes have an opening diameter $\phi 2$ which is 2.0 to 3.5 times as large as an opening diameter $\phi 1$ at the inlet opening of the jet ring," as recited in independent claim 1.

To establish a *prima facie* case of obviousness, the PTO must show that the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains (see 35 U.S.C. §103(a)). For a claimed range of parameters, the PTO can establish a *prima facie* case of obviousness if the prior art discloses a range that overlaps with or lies completely within the claimed range (see MPEP §2144.05(I)).

If the prior art fails to disclose such a range, the PTO can only establish a *prima facie* case of obviousness if the general conditions of a claim are shown in the art, and where the claimed range of parameters is a mere optimization of the general conditions (see MPEP §2144.05(II)). However, a particular parameter must first be recognized as a result-effective variable (a variable which achieves a recognized result), before the parameter can be considered "optimizable" (see MPEP §2144.05(II)(B), citing *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977)).

The Office Action acknowledges that Iizuka fails to disclose a claimed range of parameters that overlaps with or lies entirely within Applicants' claimed range (see page 3, last 3 lines of the March 25, 2010 Final Rejection). The Office Action instead

argues that the claimed range would have been optimizable because "it is well known in the art and to a general worker that a change in diameter along a fluid flow path alters the characteristics of flow by introducing turbulence [sic] at the diameter change location and that these characteristics are further altered based on the ratio between the two diameters" (see page 1 of the June 1, 2010 Advisory Action).¹

The claimed range of ratios is not an obvious optimization of a result effective variable because the prior art does not disclose that the claimed ratio achieves a recognized result. The June 1, 2010 Advisory Action provides no support for its assertion that altering the opening diameter of the inlet opening of the jet ring and the opening diameter of the meshes would introduce turbulence into the fluid. Even if the assertion is correct, there is no disclosure that such turbulence would be beneficial to foaming, and there is no disclosure of any need to improve Iizuka with respect to foaming. The Advisory Action also provides no reason why one of ordinary skill would have been motivated to make such a modification, and why one of ordinary skill would have been motivated to provide the ratios specifically recited in claim 1. The references provide no hint that providing a particular ratio between the diameters of the meshes and the inlet opening would provide any benefit.

As taught only by Applicants' specification, the claimed range of ratios recited in independent claim 1 results in fine and homogenous foam. However, this advantage is not taught or recognized by the prior art. Thus, the Office Action relies upon impermissible hindsight in reaching its conclusion of obviousness.

The arguments of the Advisory Action parallel those of *In re Antonie*. In *Antonie*, the claimed wastewater treatment device had a tank volume to contractor

¹ Applicants note the Examiner has not provided any factual basis for the above arguments other than his opinion.

area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable. Similar to *Antonie*, the prior art relied on in the Office Action does not recognize that the ratio between the opening diameter of the jet ring and the opening diameter of the meshes is a result-effective variable, for example affecting the fineness and homogeneity of the foam.


In fact, the prior art specifically discloses that desired foam is produced by optimizing the size of the mesh opening, not by controlling the ratio between the opening diameter of the jet ring and the opening diameter of the meshes, as claimed in claim 1. In particular, see paragraph [0035] of JP 2002-159893A (of record), teaching that the size of the mesh opening "is formed so that the meshes of a net of the porous sheet of the downstream (side near the delivery 43) may become fine rather than the meshes of a net of the porous sheet of the upstream (side near the mixing chamber)." Based on the teachings of the prior art referenced above, one of ordinary skill would not have known to optimize the ratio of the jet ring opening diameter and the meshes' opening diameter as recited in independent claim 1, but would simply optimize the size of the mesh openings with no regard to the jet ring opening diameter. The claimed ratio is therefore not recognized as a result-effective variable. The Office Action has thus failed to establish a *prima facie* case of obviousness, i.e. that the claimed ratio is something one would attempt to optimize.

Because the Patent Office has not established a *prima facie* case of obviousness, it is not necessary for Applicants to show criticality, unexpected results, etc. Thus, the commentary on page 7 of the Final rejection is irrelevant.

IV. Conclusion

For all of the reasons discussed above, it is respectfully submitted that all pending claims are in condition for allowance. Because neither Iizuka nor Maas teaches or renders obvious the features of independent claim 1, withdrawal of the Final Rejection and allowance of this application is respectfully requested.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Patrick T. Muffo
Registration No. 60,342

JAO:PTM/emd

Attachment:
Notice of Appeal

Date: June 21, 2010

OLIFF & BERRIDGE, PLC
P.O. Box 320850
Alexandria, Virginia 22320-4850
Telephone: (703) 836-6400

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